

REMARKS

Claims 1-3, 5, 7-10 and 11-28 were pending as of the mailing of the current office action, dated June 17, 2004, in which claims 1-3, 5 and 7-10 are rejected. Claims 11-28 were previously withdrawn, with traverse, as being directed to non-elected inventions.

Pending claims 1, 5 and 8 are rejected in the current office action pursuant to 35 U.S.C. §112, second paragraph. Claim 5 is further rejected (as is claim 7) pursuant to either pursuant to 35 U.S.C. 102(e) as anticipated by, or, in the alternative, pursuant to 35 U.S.C. §103(a) as obvious in view of U.S. Patent No. 6,179,872 to Bell ("the Bell patent"), and claim 8 is further rejected (as is claim 10) pursuant to 35 U.S.C. §103(a) over the Bell patent in combination with WO 98/22157 to Yasuhiko ("the Yasuhiko publication"). Applicant respectfully traverses these rejections, which are overcome or demonstrated to be inappropriate in view of at least the amendments set forth above and/or the remarks that follow.

Claims 1, 3, 5, 8 and 10 are amended herein. Specifically, claims 1, 3, 5 and 8 are amended to replace the terms "mesh-like", "fabric-like," and "plate-like" with, respectively, the terms "mesh," "fabric," and "plate." It is noted, for the record, that the Examiner objects to the usage of the terms "fabric-like" and "plate-like" but not of the term "mesh-like;" nevertheless, Applicant has replaced the term "mesh-like" with "mesh" in order to avoid the possibility of a similar future rejection. No new matter is introduced in any of these amendments, which Applicant submits are effective to overcome the rejections of claims 1, 5 and 8 pursuant to 35 U.S.C §112.

Claim 5 is amended to delete some of the features currently recited therein and to incorporate certain features of claim 7, which, as noted above, is canceled herein without prejudice. In view of the cancellation of claim 7, claim 8 is further amended to change its dependency from claim 7 to claim 5, and claim 10 is amended to modify its multiple dependency from claims 3, 5, 7 and 8 to claims 3, 5 and 8.

Regarding the 35 U.S.C. 102(e)/103(a) rejections of claims 5, 8 and 10, Applicant submits that features recited in claim 5 (from which claims 8 and 10 depend) are neither disclosed nor suggested by the Bell patent, and that the deficiencies of the Bell patent are not remedied by the Yasuhiko publication.

According to claim 5, ultra-fine fibers of collagen are formed "by performing a freezing and freeze-drying procedure to a hydrochloric acid solution of extracted collagen." Thus, the hydrochloride is frozen and sublimed by performing a freezing and freeze-drying procedure. Consequently, no salts are crystallized in the collagen material of claim 5; that, in turn, beneficially causes the collagen material to be morphologically stable and to have a strong structure.

Conversely, the Bell patent specifically calls for using a sodium, ammonium or potassium hydroxide solution in connection with fibril formation. Because the collagen material of the Bell patent is made using salts for fibril formation, the resultant collagen material is unstable and has a relatively weak structure. Moreover, these salt-related drawbacks would be present/exhibited even if the collagen material were to be washed with water after fibrilization, since it would be impossible to completely wash out all of the salts in the collagen material.

Therefore, not only is claim 5 patentable over the Bell patent, but the collagen material recited in claim 5 is advantageous over the collagen material described in the Bell patent due at least in part to the patentable features of claim 5.

Additionally, the Bell patent describes (e.g., at Column 12, lines 47-49) a chemical crosslinking treatment, whereas thermal dehydration crosslinking is utilized in accordance with the present invention. Usage of thermal dehydration crosslinking provides a further advantage to the present invention in that no chemical crosslinker is used. This beneficially ensures that the collagen material of the present invention will exhibit a powerful affinity for cells and a sufficient strength for medical use.

In sum, Applicant submits that the features recited in claim 5 are neither disclosed nor suggested by the Bell patent. Moreover, such features contribute to the fact that the collagen material of claim 5 has improved properties as compared to the collagen material described in the Bell patent.

Further, the Yasuhiko publication does not remedy the deficiencies of the Bell patent with respect to claim 5.

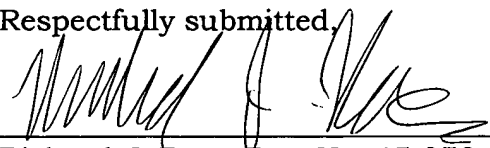
In view of at least the amendments and/or remarks set forth above, Applicant submits that claim 5 is patentable over the cited references, whether such references are considered alone or in combination. Therefore, claim 5 is allowable because the 35 U.S.C. §112 rejection thereof has been overcome and the 35 U.S.C. §102(e)/103(a) rejection thereof has been demonstrated to be inappropriate.

Claim 1 is allowable, because the rejection thereof pursuant to 35 U.S.C. §112 has been overcome, as has the 35 U.S.C. §112 rejection of claim 8. Because claim 1 is allowable, so too are claims 2, 3 and 9, each of which depends directly or ultimately from (and thus includes the features of) claim 1. Also, because claim 5 is allowable, so too is claim 8, which depends from (and thus includes the features of) claim 5. Lastly, multiple dependent claim 10 is allowable because each of the claims from which it depends (i.e., claims 3, 5 and 8) are allowable.

Reconsideration and immediate allowance of claims 1-3, 5 and 8-10 are respectfully requested.

If the undersigned can be of any assistance in advancing the prosecution of this case, the Examiner is invited to contact him using the information provided below.

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Respectfully submitted,

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